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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,694	06/10/2005	Paulo Emilio Valadao Miranda	10008.007	6975

7590 09/26/2008

Fildes & Outland
Suite 2
20916 Mack Avenue
Grosse Pointe Woods, MI 48236

EXAMINER	
PADGETT, MARIANNE L	

ART UNIT	PAPER NUMBER
1792	

MAIL DATE	DELIVERY MODE
09/26/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/538,694	MIRANDA ET AL.	
	Examiner	Art Unit	
	MARIANNE L. PADGETT	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. **Claims 1-6** are rejected under 35 U.S.C. **112, second** paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is noted that all the **preambles** of dependent **claims 2-6** use the phrase "in accordance with reinvindictation", where the examiner notes that the word "reinvindictation" is not found in her English dictionary (Webster's Ninth New Collegiate Dictionary), but the closest word thereto is reinvention, which would not seem to be the intended word, as it would be an admission that the process had been previously invented. The examiner further notes the dictionary does not recognize the existence of -- invindictation -- as a word either, although vindication is a word, but neither vindication nor revindication would make sense in the context of the claims. Therefore, it is unclear what meaning applicants actually intended by use of this phrase/word in the dependent claims. If the intent was possibly a similar sounding phrase, "the invention", it would be more appropriate for applicants to consider employing terminology that has proper antecedent basis in the independent claim.

It is also noted that **quotation marks** generally should not be employed in claims, especially considering that in the past they indicated amendments to claims.

While it is permissible to include **reference numbers** in the claims, applicants should be aware that they are not taken to provide any requirement or further limitation to what is claimed. Also while inclusion of **multiple ranges** in a claim is also permissible (e.g. as in claim 3 "range of temperatures, from room temperature to 400°C, preferentially in temperatures between 300 and 400°C"), only the broader claimed limitation need be considered & the narrower claimed ranges are treated as entirely optional, hence do not actually need to be shown as known or obvious.

While inclusion of optional ranges is OK, phrasing as found in **claim 1**, lines 6 or 10-11, is vague and indefinite, since "... pressure of, for example,..." is unclear, as it appears to be requiring a specific pressure or range of pressures, but fails to appropriately define any required scope. With respect to the

claim of a pressure reached during creation of vacuum & a pressure chosen as the working pressure when nitrogen rich gas mixture is introduced, it will be considered that the "for example" phrase means that these pressures are not actually required & no specific pressures are actually claimed, nor do to non-limiting **examples** necessitate any particular pressure relationship.

With respect to the limitation of "... nitrogen rich gaseous mixture with composition at varying in the range N_2 + 0%-50% H_2" in lines 8-9 of **claim 1**, it is ambiguous whether this limitation is requiring the variation in composition to occur during the processing or requiring that the composition used during processing is chosen from the claimed range. Furthermore, while percentages are unitless quantities, in order to be able to determine a percentage one needs to know the basis on which the percentage was calculated, thus it is unclear whether the proportions of hydrogen gas that may be employed in the mixture are determined with respect to weight, or volume, or moles, etc., thus the actual scope of the range is unclear, since different actual range amounts may result from different basis is of calculation, i.e. 50% by weight $\neq$ 50% by volume.

In lines 11-13 of **claim 1**, the requirement of "a different of potential (7) that corresponds to a temperature of up to 400°C measured by means of a thermocouple (8)" is unclear, because : what kind of potential has not been defined (i.e. potential difference of what? Since it's being related to temperature, this would imply that it's some sort of difference in temperature!); and the phrase "corresponds to" does not provide any necessary relationship, only that there is some undefined relationship (i.e. a piece of paper on my desk at work in front of me & a piece of paper on someone's desk on the other side of the world both correspond to a location with respect to me, but the location is very different). Also note that "up to 400°C" = absolute zero-400°C, since "up to" includes all values less than 400°C. Also, while there is a claim to measuring a

temperature, where that temperature is being measured or of what it provides the temperature, is not stated or clear from the claim language.

The claims are replete with terms that lack **proper antecedent basis**, since for standard US patent terminology, a term or limitation that is being newly introduced, should be introduced with either no article or the article "a", while use of "the" or "said" indicates a previously introduced limitation or a limitation that is necessarily/inherently present due to something else which was previously introduced.

The body of independent **claim 1** is **not commensurate in scope** with its preamble, as the preamble requires "Pulsed-plasma ion-nitriding process", however there is no step requiring any generation of plasma, let alone a pulsed plasma. It is noted that in lines 13-16, there is a limitation of "the nitriding times are calculated from the sum of the periods of the time that the plasma was active so as to keep this total time a fixed value", however since no plasma has been required in the body of the claim to be active, this requirement has no meaning with respect to any of the other limitations in the claim, although there is clearly some intended relationship between this calculation & the preamble, but what that relationship is, has not been clearly defined by the claim language. Furthermore, it is not clear that even if there was some clear limitation requiring a pulsed plasma to exist or be employed, such as creating a plasma via a pulsed electrical potential difference, this limitation merely says to after-the-fact sum up the times that the plasma was on & call it a fixed value, so it has no clear meaning or effect with respect to the nitriding process. It's just whatever time one had the plasma turned on, which after the process has been completed, can only be considered a fixed value.

Further note that while the **claim 1** preamble says that it is an ion-nitriding process & the chamber is called "a nitriding chamber", with line 13 referring to "the nitriding times" & line 16 to "the nitriding treatment" (no antecedent basis), the claim never actually requires anything (such as the sample) to actually be nitrided! This is another way in which the body of the claim is not commensurate in scope with the preamble & does not clearly set forth what is being done.

Claims 2-3 & 6 refer to "steel", however never associate this steel with any limitation of the independent claim, thus **as written** none of these dependent claims have any clear relationship to the process of the independent claim. While a logical intent would appear to be that the sample of independent claim 1 is intended to be steel, this has not actually been claimed.

In **claim 4**, the requirement of "use of a gaseous mixture preferentially for the example disclosed..." is unclear, as it is unclear what example applicants are referring to, i.e. one or both of the pressure "for examples" of the independent claim, or something in the specification, which is entirely improper, since it is then unclear what part or parts of an example in the specification are supposed to be encompassed by the claim.

It is unclear what, if anything **claim 5**, is intended to add to the requirements of independent claim 1, which already requires a calculating step that appears to be the same as that of claim 5, i.e. what narrowing of scope is intended by this is unclear.

Claim 5 is **objected** to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. As noted above, claim 5 appears to repeat a limitation already required in the independent claims, without requiring any further limitation to the scope of the claim.

2. The following guidelines illustrate the preferred layout for the **specification** of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
(f) BACKGROUND OF THE INVENTION.
(1) Field of the Invention.
(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(g) BRIEF SUMMARY OF THE INVENTION.
(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(i) DETAILED DESCRIPTION OF THE INVENTION.
(j) CLAIM OR CLAIMS (commencing on a separate sheet).
(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

The **disclosure is objected** to because of the following informalities: the specification is lacking a brief description of the drawings & there are 3 figures, which need to be included in such a section. Appropriate correction is required.

3. The **specification is objected** to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

in a review of the specification, the examiner did not find the claimed range of "temperature of up to 400°C" taught in the body of the original specification, thus this claimed range of independent claim 1 does not appear to have appropriate antecedents in the body of the specification as originally filed. It is noted on page 4, lines 11-14, it is taught that "the temperature within the chamber was for example, in the range of 300 to 400°C, measured by a thermocouple (8)", which is a significantly different range than "up to 400°C". Similarly, the range in claim 3 of "room temperature to 400°C", was only found at the end of the paragraph bridging pages 1-2 (lines 2-6) found in the section concerning "Preceding Procedures" (i.e. prior art or background information), & appears to be directed to plasma nitriding in general, not to be specifically claimed steel, thus does not provide the body of the specification with appropriate antecedents for claim 3.

Claims 1-6 are rejected under 35 U.S.C. **112, first** paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

With respect to the claim of the process somehow being done with "a temperature of up to 400°C", this appears to include temperatures that cannot be considered properly enabled by the specification as presented, as the inclusion of temperatures all the way down to absolute zero is considerably lower than applicants admit is even known in the art of plasma nitriding, which was seen to include room temperature as the lowest mentioned temperature, thus the specification is considered to be lacking in enablement for performing the process for the entire scope of claimed temperatures.

Claims 1-2 & 4-6 are rejected under 35 U.S.C. **112, first** paragraph, because the specification, while being **enabling for** pulsed plasma nitriding of substrates, possibly steel, employing temperatures between 300-400°C, or more generally employing room temperature-400°C, **does not reasonably provide enablement** for employing temperatures below room temperatures, as encompassed

by the claim of "up to 400°C. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. See paragraph immediately above, and note that the applicants' background discussion can be considered to provide sufficient enablement, due to the expectation from known plasma nitriding temperatures & inclusion in original claims, to the expected effectiveness in the presently probably claim limitations of pulsed plasma nitriding of generic substrates or steel substrates.

4. The following is a quotation of **35 U.S.C. 103(a)** which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. **Claims 1-6** are rejected under 35 U.S.C. **103(a)** as being unpatentable over **Bergman et al.** (4,762,756).

Bergman et al. teach an ion plasma process that may be used for nitriding or nitrocarburizing substrates, inclusive of steel, where the chamber employed is evacuated (<0 .01 Pa), & reactive gases are input (0.5 Pa in Ex. 1). A thermionic cathode provides pulsed ionization & may also be employed to control the substrate temperature via its arc discharge, where temperatures are controlled with an accuracy of ± 2°C. A wall plate is grounded & employed as an anode (≡ part of the chamber interior), while the

substrate holder additionally has voltage applied thereto, also acting as a cathode. The use of pulsed arc discharges, as opposed to continuous, is noted to provide the advantage of preventing damage to the substrate & unwanted conversion of energy into heat. It is taught in general that plasma nitriding & plasma nitrocarburizing were known to employ temperatures between 350-700°C. Bergman et al.'s Ex. 1 treats a steel substrate in a gas mixture, including 15 vol.% Nitrogen, 45 vol.% Ar & 40 vol.% hydrogen (applicants' gas mixture neither includes nor excludes the presence of inert gases, i.e. Ar, & does not require any particular percentage of N_2), at approximately claimed exemplary pressure, and during the ion treatment employs a temperature of 530°C for an hour to produce a hardened surface with penetration depth was 20 μm (presumably nitration depth). Note, the calculated time when plasma is active due to pulsing during the one-hour treatment, is inherently a fixed value, as are all such calculated at times, as claimed, after a process is complete. Example 2 performs an analogous process with 25 vol.% N_2 + 75 vol.% benzene or 12 vol.% methane + 55 vol.% N_2 + 33 vol.% H_2, but at 480°C to effect a carbonitride surface. Particularly see the abstract; figure 1; col. 1, lines 5-21 & 46-65 & col. 2, lines 55-68; col. 3, lines 42-68; col. 5, lines 34-col. 6, lines 30, especially 20-27; and examples 1-2 on col. 6-7 & table I).

Bergman et al. differs from applicants' claims by clearly discussing the nature, origin & effect of their pulsed plasma, which while it is not clear from the present claims, is possibly what was intended therein, however the Bergman et al. process does not discuss any specific temperature ranges to be employed with their generic process, only provides exemplary temperatures in a specific examples, where the specific examples applied to steel substrates for nitriding are higher than the independent claim's upper limit of 400°C. However, Bergman et al. acknowledge known plasma nitriding temperatures to be 350-700°C, hence it would've been obvious to one of ordinary skill in the art to employ such nitriding temperatures dependent on the particular alloy desire to be nitrided, the shape of that particular substrate & its sensitivity to damage due to excessive thermal effects, etc., especially considering Bergman et al.'s

recognized ability to accurately control the temperature & recognition of advantages of employing the pulsed process to control undesirable effects to the substrate including unwanted heat.

Bergman et al. also differs by not discussing use of a thermocouple to determine the temperature employed, however in order to control the accuracy of the temperature to within ± 2°C as taught, one of ordinary skill & competent in the art would recognize that a means for measuring the temperature must be present, and the examiner takes notice that thermocouples are an old, a well-known & conventional means for measuring temperature, especially for determining substrate temperatures or chamber wall temperatures, etc.

While Bergman et al. do not discuss a cool-down process, such as the claimed one that takes place in the nitriding chamber under a nitrogen atmosphere, in any process where the substrate has been surface treated at elevated temperatures, such as claimed or as taught by Bergman et al., one of ordinary skill in the art would have been expected to be allow the substrate to cool under the surface treated atmosphere or possibly inert atmosphere, until it had sufficiently cooled to temperatures where no further surface reaction would have been expected or likely, in order to prevent any unwanted surface contamination of the surface treated/nitrided product, thus doing so in the nitriding chamber would have been an obvious option, as it would have prevented unnecessary exposure to possible contamination.

Further note with respect to applicants' dependent claims concerning steel, assuming that independent claim 1's sample = steel, it is noted that a nitrided steel surface, whether or not it is ever employed as a hydrogen diffusion barrier, would inherently have properties produced by the surface nitriding effect, thus would have reasonably been expected to produce the claimed hydrogen permeability/barrier results, as there are no critical or unobvious differences in the process, such that like results would have been expected.

6. The patent to Schumacher et al. ((5,330,800): abstract; col. 1, lines 5-24; col. 2, lines 8-45; col. 3, lines 4-15; col. 3, line 60-col. 4, lines 7 & 35-65; col. 5, line 40-col. 6, lines 40; col. 5, lines 24-

65; example 1 col. 10, lines 36-65) is noted to have teaching substantially similar to those of Bergman et al., including an example in col. 10 which uses a pulsed nitrogen plasma on a steel substrate; the apparatus is illustrated in figures 1 & 4-5 with claimed cathode/anode arrangements, except Schumacher et al. provides no discussion concerning processing temperatures.

7. **Claims 1 & 4-5** are rejected under 35 U.S.C. **103(a)** as being unpatentable over **Wang** (6,465,348 B1) or **Chen et al.** (2003/0143328 A1), in view of **Dunham** (4,733,137) or **Schumacher et al.** (5,330,800, discussed above in section 6) or **Bergman et al.** (discussed above in section 5).

Wang teaches a pulsed plasma treatment of a MOCVD titanium nitride layer containing hydrocarbon impurities, which removes those impurities, replacing them with nitrogen, i.e. thus is a nitriding process. Why et al. uses a pulsed plasma in order to prevent the substrate temperature from getting too high, thus is considered to control the temperature via the electrical potential is applied to create the pulsed plasma. As illustrated in figure 5, the process achieves limiting the temperature to less than 390°C, & includes a multistep process with a first pulsed plasma preformed with both N_2 & H_2 gas flows controlled between 100-500 sccm, then a cooling (purge) period, with higher gas flows of N_2 & H_2, followed by repeating the plasma & cooling steps. Particular you see the abstract; col. 2, lines 15-35; cols. 3-4, especially col. 3, lines 37-col. 4, lines 10 & 28-51. Wang differs from these claims by not discussing the structure of their plasma apparatus, i.e. where are the anode and cathodes), and by not mentioning the means by which their temperature is measured.

Alternatively, **Chen et al.** provides analogous teachings, except may preformed a similar process in a continual pulse sequence of titanium deposition, H_2/N_2 purge (no plasma), H_2/N_2 plasma, H_2/N_2 purge (no plasma = cooling), as illustrated in figure 7, where the temperature as employed in this process is maintained preferably at a temperature between 250-500°C ([0064-70], esp. [0066 & 69]), where plasma reactors that may be employed, such as illustrated in figure 2 are taught that they may employ the substrate as a powered or grounded on electrode & the gas input showerhead ceiling also as a powered or

grounded electrode ([0040-42]), thus encompassing possible anode/cathode configurations as claimed, but not requiring a specific configuration for the above discussed at nitriding techniques. Chen et al. also does not discuss use of a thermocouple to measure the temperature is that were indicated to be maintained.

The use of a known means, such as a thermocouple, for measuring temperature in the processes of either Wang or Chen et al. would have been obvious for reasons as stated above in section 5.

With respect to apparatus structure useful for an ion-plasma nitriding process, as discussed in either Wang or Chen et al., any of Schumacher (discussed in section 7) or Bergman et al. (discussed in section 6) or Dunham (abstract; figures, esp. 1, showing nitriding chamber 11 grounded & substrate holder = substrate powered; col. 2, lines 19-55; plus extensive discussion of duty cycle or pulsed width control on col. 4+), teach substrate/substrate holder powered as a cathode & chamber or significant chamber wall section grounded as an anode, being effective for a pulsed plasma ion nitriding process, thus it would've been obvious to one of ordinary skill in the art to employ such a configuration in either Wang or Chen et al., as such configurations are seen to be to have been known to be capable of providing the pulsed ion nitriding requirements of the alternative primary references taught processes, thus it would've reasonably been expected to enable the taught processing to occur, especially noting further motivation for Chen et al., as such configuration is consistent with options set forth therein.

8. **Other art of interest** includes: **Neidhardt et al.** (6,490,993 B2) cited in the PCT search report as an A reference; **Liedtke et al.** ((5,769,965): abstract; figures, especially 3 & 5; col. 1, lines 28-34; col. 3, lines 49-col. 4, line 60; col. 5, lines 5-24 & 50-col. 6, lines 3), who ion plasma nitrides steel substrates using a pulsed plasma system & gases such as argon, hydrogen & nitrogen, in a grounded chamber, where the workpiece is the cathode, employing temperature sensors 78 & 79 (on substrate & on wall) to control temperature (thus demonstrate the above stated obviousness of such use), with a subsequent cool down, however the plasma nitriding temperatures are taught to be between approximately

500-800°C; **Paderov et al.** ((6,797,335 B1), abstract; figure 2; col. 3, lines 42-col. 4, line 60; col. 5, lines 5-20 & 44-65 ; col. 6, lines 6-30 & 55-col. 7, lines 10) who teaches a process of making micro layers that involves plasma deposition of the metal, with simultaneous or subsequent ion plasma implantation, where the ion might be nitrogen (i.e. nitriding), however the workpiece is the anode, & the metal source material the cathode, with use of a high energy pulsed ion source is taught at reduce the risks of overheating & temperature warpage, on substrates inclusive of titanium, steel or nickel based alloys in aircraft engines, where exemplary temperatures are 200-400°C or up to 700°C at the cathode & 480-550°C for blade substrates

9. **Any inquiry** concerning this communication or earlier communications from the examiner should be directed to **Marianne L. Padgett** whose telephone number is **(571) 272-1425**. The examiner can normally be reached on M-F from about 9:00 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks, can be reached at (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).3.

/Marianne L. Padgett/
Primary Examiner, Art Unit 1792

MLP/dictation software

9/23/2008